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Exploring the impact of social anxiety on behavioural variability

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Abstract

Traditionally considered random noise, variability in behaviour in fact contains meaningful structure. Healthy functioning can be characterised by behavioural variability that is statistically self-similar (i.e., exhibits 1/f scaling), while disease or injury can result in deviations from this pattern. To date this work has focused predominantly on physical conditions. Little is known about the link between mental health and 1/f scaling. To address this gap, in the present study participants completed a simple walking task during which their gait variability was captured. Cognitive load, a factor known to impact 1/f scaling, was manipulated and symptoms of social anxiety assessed. As expected, being distracted by a cognitive task led to deviations in gait structure away from 1/f scaling. Notably, this effect was influenced by symptoms of social anxiety. This provides initial evidence that difference in mental health status impacts the structure of behaviour.